RCRAInfo V2.0
Conversion Rules

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Purpose of this Document

This document was developed by the RCRAInfo V2 Design Team to summarize and communicate to the RCRAInfo User Community the conversion rules used when converting RCRAInfo data from RCRAInfo Version 1.1.2 (V1) to Version 2.0 (V2).

The RCRAInfo Structure Charts and Crosswalks are the primary reference documents for the conversion (http://www.epa.gov/oswfiles/rcrainfo/version2.htm), however, the following notes were compiled to explain the situations in which the conversion is not adequately explained by those documents. We also refer Users to the recently released ***RCRAInfo V2.0: Final High Level Design Summary and Response to RCRAInfo User Community Comments on the Proposed High Level Design*** (http://www.epa.gov/oswfiles/rcrainfo/version2/hld_rtc.pdf).

Handler Module

Waste Code and Process Code Data

The waste stream concept was created for RCRIS in an attempt to provide a logical connection between process and waste code information that appears on the Part A form. For the 99% of records ('N'- Notifications) that had to fit into this structure, an artificial waste stream had to be created just to get notification waste codes into the database. The waste stream structure has now been dropped in V2; current waste stream data will be archived, but, still available for reporting.

Waste code data will be converted directly into the new structure. However, the waste process data in V1, relevant only to Part A data, cannot be converted because it is related to waste codes through the waste stream table, which will be archived. Version 2 will accommodate the need to relate process codes to waste codes, as submitted in Part A's, with a new table in the Permitting Module that allows users to link to waste codes from unit data.

Contact Data

Contact data is subject to a big structure change in V2. In RCRAInfo V1, there can be multiple contact records for a single ID number, but only one record for each contact type. There is no direct structural connection between contact data and source, but there might seem to be one, because contact types 'N'-Notification,'A'-Part A and 'R'-Biennial Report are the same letters as valid values for source. Other contact types can be any letter from 'E' through 'Z' in V1 ('E' through 'M' in RCRIS). These contact type values are selected by the Implementer, and only the Implementer knows what they mean.

In V2, contact data has moved into the Hhandler2 table, where it is logically associated with source. In converting contact types in the present structure, we match contact type records with source records in the new Hhandler2 table, according to the following rules:

1. Contact type 'N' records will be converted into source 'N' Hhandler2 records. If there is more than one source 'N' record in Hhandler, the contact type 'N' data will be inserted into only the most recent source 'N' Hhandler2 record. Earlier source 'N' Hhandler2 records will have 'nulls' in the contact fields.

2. Contact type 'A' records will be converted into Source 'A' Hhandler2 records. As for contact type 'N', above, if there is more than one source 'A' record in Hhandler, the contact type 'A' data will be inserted into only the most recent source 'A' Hhandler2 record. Earlier source 'A' Hhandler2 records will have 'nulls' in the contact fields.

3. The approximately 2,100 contact type 'R' (Biennial Report) records in Hhandler will be converted into source 'R' Hhandler2 records. If there is more than one source 'R' record in Hhandler, the contact type 'R' data will be inserted into only the most recent source 'R' Hhandler2 record. Earlier source 'R' Hhandler2 records will have 'nulls' in the contact fields. (Also refer to the WAR conversion section for additional information regarding the conversion for Source 'R', as the WAR conversion creates additional Source 'R' records.)

4. All other contact types will be inserted into a single source 'I' record in Hhandler2. If there are more than one 'E-Z' contact type records (a rare case), only the one lowest in an alphabetical sort will be converted, and will be inserted into the most recent source 'I' record.

Possibility of Contact Data NOT Converting

As may be apparent from the above explanation, it is possible that some contact records may not convert into the V2 Hhandler2 table. No contact data will be lost, as all existing V1 contact data will be archived and available for reporting.

There are two situations which can result in existing contact records not converting into the V2 Hhandler table.

1. Contact type/source mismatches. There may be contact type 'N' data, but no source 'N' record for that ID in V1 Hhandler; contact type 'A' with no source 'A' record in V1 Hhandler; contact type 'R' with no source 'R' record in V1 Hhandler; and/or contact types of 'E-Z' with no source 'I' record.

2. Multiple 'E-Z' contact type records, but only was selected for converting into a source 'I' record in Hhandler2 (see Contact conversion rule #4 above).

Before final conversion, users will be provided with reports listing records that cannot convert into the V2 Hhandler table because of the above two situations. Users can then decide whether to change the contact type values in the existing structure (global changes may be offered by the development team in certain cases) or to accept the non-conversion of certain non-essential contact data.

SIC to NAICS Data Conversion

SIC code data now in RCRAInfo that does not contain valid SIC codes will not be converted. A report listing facility-level data containing invalid SIC codes will be provided for those users who want to clean up SIC code data.

All valid SIC code records in the V1 Handler module and in V1 Biennial Report module will be converted one SIC Code record to one NAICS Code record. SIC data in V1 Hsic table will convert into V2 Hnaics table under a parent Source 'A' record. If there is no source 'A' record for the ID, the following hierarchy will be used: 'I'-Implementer, 'N'- Notification.

For determining the SIC to NAICS correspondence, we used tables available as links on the http://www.census.gov/epcd/www/naics.html web site. The links take the user to a page of the Census Bureau web site. The reader desiring a more complete understanding of the SIC/NAICS conversion issues may refer to these tables, which are available in pdf, Word Perfect (5.1), dBase III, ASCII and comma delimited formats.

Of the total of approximately 1050 distinct SIC Codes, approximately 380 do not correspond one-to-one with a NAICS Code. The one-to-one conversions present no complications, however, for these 380 SIC Codes, NAICS has a finer categorization of industries, so there are multiple NAICS Codes for one SIC Code. Converting these 380 SIC Codes required the Team to select the single NAICS Code (among the multiples) that best fit each SIC Code, using one of the following three selection techniques most appropriate for that Code:

1. **Select one of the multiple NAICS Codes that is equivalent or close to the SIC Code in meaning.**

2. **Select the "Other ..." NAICS Code, where all of the other NAICS Codes for the SIC Code were obviously wrong.**

3. **Select a higher level NAICS Code (fewer digits) where none of the multiple lower level NAICS Codes matches the SIC Code. NOTE: these higher level NAICS Codes are not shown in the Census Bureau's SIC-to-NAICS table, they are shown only in the NAICS-to-SIC table. (Refer to the pdf files available via the URL above).**

An Example of the each of the three conversion techniques follow:

1. **Select one of the multiple NAICS Codes that is equivalent or close to the SIC Code in meaning.**

   SIC 4214, Local Trucking with Storage, corresponds to 3 NAICS Codes:

   Selected **48411 General Freight Trucking, Local**
   48421 Used Household and Office goods Moving
   48422 Specialized Frieght (except Used goods) Trucking

2. **Select the "Other ..." NAICS Code, where all of the other NAICS Codes for the SIC Code were obviously wrong.**

   SIC 4789, Transportation Services, NEC, corresponds to 4 NAICS Codes:

   Selected **488999 All Other Support Activities for Transportation**
   48711 Scenic and Sightseeing Transportation, Land
   72231 Food Service Contractors
   48821 Support Activities for Rail Transportation

   Note: Three of the four NAICS Codes are obviously too narrowly defined. The first, 488999, encompassed the SIC Code completely.

3. **Select a higher level NAICS Code (fewer digits) where none of the multiple lower level NAICS Codes matches the SIC Code.**

   SIC 3449, Miscellaneous Structural Metal Work, corresponds to 4 NAICS Codes:

   332114 Custom Roll Forming
   332312 Fabricated Structural Metal Manufacturing
   332321 Metal Window and Door Manufacturing
   332323 Ornamental and Architectural Metal Work Manufacturing

   No "Other..." NAICS Code was provided. Because all four NAICS Codes are too narrow for equivalence with SIC Code 3449, this is a case where only a higher level NAICS Code will work:

   Selected **3323, Architectural and Structural Metal Manufacturing**

   As noted above, all levels of NAICS Codes, from the highest 2 character Code to the lowest 5 or 6 character, are provided only in the NAICS- to-SIC Table.

The Team has created an Oracle table that incorporates the SIC-NAICS conversion logic explained above. You will find the SIC-NAICS Conversion Table on the RCRAInfo website with the other V2 documentation: (http://www.epa.gov/oswfiles/rcrainfo/version2.htm)**.**

Activity Data

In V2, all activities are either 'Y'-Yes or 'N'-No, except for generator activity. **Users should note that during the conversion, the RCRA regulatory status value overrides the activity indicator** (i.e., if the RCRA regulatory status in V1 for an activity is 'N', the activity will convert to 'N' regardless of the value of the activity indicator). The State regulatory status field in V1 is ignored in the conversion, with the sole exception of generator activity, in which case the PAA decision was to require States to indicate when the State regulatory status for a generator differs from EPA regulatory status. In V2, a generator can have both an EPA generator status and a different State generator status. We tried to be consistent with that approach in the conversion, but because V1 allows just one generator activity value, the conversion creates **either** a Federal Waste Generator or a State Waste Generator.

Existing regulatory status description fields are not in the V2 structure, nor are they used in conversion logic, with one exception: conditional exempt generators. If the generator activity is "3" for conditionally exempt, the Generator RCRA regulatory Status is "N", but the Generator RCRA Description is "1", then the handler's generator activity is converted as "3".

The following outlines the conversion logic for each activity currently in V1. Activities in the current structure that are not carried over to the V2 structure are not shown below. It will be helpful to refer to the Crosswalk to see which activities have been dropped and archived. Please note that some combinations of activity indicator and regulatory status shown below may not exist in V1 data, and some activities allow regulatory status values of 'A'-Regulated under another ID or 'P'-Pending. These two values ('A' and 'P') are treated as 'N' in the conversion.

------- Current (V1) ----------			--V2---
Activity	Activity Values	RCRA Reg.Status	Activity
Universal waste	L, S	R	Y
	blank, N	any	N
	L,S	N	N
Transporter	C,S,X	R	Y
	blank, N	any	N
	C,S,X	N	N
TSD	X	R	Y
	blank, N	any	N
	X	N	N
Used Oil market burner	X	R	Y
	blank, N	any	N
	X	N	N
Used Oil Spec Marketer	X	R	Y
	blank, N	any	N
	X	N	N
Used Oil Burner	X	R	Y
	blank, N	any	N
	X	N	N
Used Oil Transporter	T,B,F*	R	Y
	blank, N	any	N
	T,B,F	N	N
	*F values will be converted into the new used_oil_transfer field		
Used Oil Processor-Refiner	T,B,F	R	Y **
	blank, N	any	N
	T,B,F	N	N
	** Split into two fields in V2, one for Processor and one for Refiner.		
Recycler	C,R	R	Y
	blank, N	any	N
	C,R	N	N
Underground Injection	X	N/A	Y
	blank, N		N
Generator	1 - 3	R	1 - 3
	4 - 9, A- Z	State Reg. status A, R or S	4 - 9, A - Z ***
	blank, N	any	N
	1 - 3	N	N
	*** Split into two fields, Fed. Generator for values 1-3, State Generator for 4 - 9, A - Z.		

Other Permit

Other permit data in V1 is not associated with source, however, because other permit information is normally submitted on Part A forms, this data will be converted into the V2 Hother_permit2 table as a child record of the most recent source 'A' record in Hhandler2. In anomalous cases where there are no source 'A' records, but there is other permit data, the other permit data will be associated with other source records using the following hierarchy: 'I'- Implementer, 'N'- Notification.

Owner-Operator

In V1, there is no structural connection between owner-operator data and source, so there is no way to associate previous owner-operator data with a source record. Therefore, only current owners and current operators will be converted into the V2 Howner_operator2 table and the V1 Howner_operator table will be archived, but, still available for reporting. Because operator data is normally submitted on Part A forms, and not on notification forms, current operator data will be converted into an Howner_operator2 record, that is a child of the most recent source 'A' record in the Hhandler2 table. Lacking a source 'A' record for the ID, the operator data will be associated with other source records using the following hierarchy: 'I'-Implementer, 'N'- Notification, 'R'- Hazardous Waste Report.

The current owner data will simply be converted to a record in the Howner_operator2 table that is a child record of the most recent Hhandler2 record.

Non-notifier Indicator

Since RCRIS, the usual method for indicating non-notifiers has been to create a source 'E' or 'S' record with the non-notifier indicator set to 'X'. Later, Implementers can add a new Hhandler record with the value 'O' for former non-notifier, or 'E' for subsequently determined to be exempt. The conversion will insert the non-notifier indicator value into the most recent source 'I' record. Lacking a source 'I' record for the ID, the 'N'- Notification record will be used.

Previous ID

V1values of Previous_ID in the Hhandler table will be converted into the V2 Hprevious_id table **IF** those values are found in the Hbasic table. Values of Previous_ID not found in the Hbasic table will not be converted into the Hprevious_id table.

Latitude and Longitude

Latitude and longitude values in the existing V1 Hlatitude_longitude table will not be converted into the V2 Hhandler2 table and Hlatitude_longitude will be archived, but, still available for reporting.

Hbasic IDs without Source Records

In V1 there are approximately 1,000 IDs in the Hbasic table with no child records in the Hsource table, and, therefore, no activity data. To allow access to Owner/Operator, Contact or SIC Code data that may exist for these IDs, the IDs will be converted and inserted into a specially created source 'I' record in the V2 Hhandler2 table. All activities will be set to 'N'-Notification.

Hbasic Handler_name

The handler name will be converted into the V2 Hbasic table in the handler_name field and into the Hhandler2 table in the site_name field.

In V2, the field handler_name in the Hbasic table will be populated based on the latest source record. If multiple source records ALL have the latest received date, the following hierarchy will be used: 'I'-Implementer, 'N'- Notification, 'B'- Both Notification and Hazardous Waste Report; 'R'- Hazardous Waste Report; 'A'- Part A.

As handlers change names, the new names will replace handler_name in the Hbasic table and the previous names will then be available in earlier source records in the site_name field in Hhandler2 table. This replaces the functionality of the V1 Hprevious_name table, which will be archived, but, still available for reporting. The site_name field in Hhandler2 allows the user to know which site name was submitted on each form entered into RCRAInfo**,** or assigned by an Agency entering a source 'I' record.

Waste Activity Reporting (WAR) Module

The conversion of the Biennial Report (BR) data from the V1 structure to the V2 structure was relatively straightforward. Most tables in V1 had tables that directly corresponded in V2 (e.g., BG1_FORM_GM_BASIC_INFORMATION in V1 corresponds to BGM_BASIC in V2, BS123_FORM_IC_PART1 in V1 corresponds to HHANDLER2 in V2). Currently, only the 1999 BR data has been converted. As soon as the conversion rules are considered final, all data for all BR cycles (1989 - 1999) will be converted.

The main areas of interest in the conversion are the calculation of two fields (TSD_ACTIVITY and RECEIVE_DATE), and the conversion from the V1 coding structure to the V2 coding structure, but, we would also like to highlight the following conversion rules:

1. The field TSD_ACTIVITY in the Hhandler2 table was set using the fields FK_BLN_RPTCYC_OFK_LU_ON_SITE_S and FK_BLN_RPTCYC_OFK_LU_ON_SITE_M from the V1 BS123_FORM_IC_PART1 Table. These two fields are the RCRA Storage indicator and the RCRA Treatment, disposal, or recycling indicator (found in Section VI, Boxes A and B of the 1999 Hazardous Waste Report, Instructions and Forms). If a site had a storage indicator of 2, 3, 4, or 5 or a treatment, disposal, or recycling indicator of 3 the TSD_ACTIVITY flag was set to 'Y' otherwise it was set to 'N'.

2. The field RECEIVE_DATE in V2 Hhandler2 Table was set using the field CERT_SIG_DTE from V1 BS123_FORM_IC_PART1 table. RECEIVE_DATE is a critical field because it is used in the universe calculations to determine precedence of competing source records. CERT_SIG_DTE is the Biennial Report data field that most closely corresponds to RECEIVE_DATE. In cases where CERT_SIG_DTE is 'null', a default value of March 1, appropriate to the BR cycle, was used (which corresponds to the date by which sites were required to file the report). For example, if a BR record for the 1999 cycle had a 'null' receive date then a value of March 1, 2000 was used.

3. Historically, the BR data transfer files allowed implementers to supply both a county name and a county code. The V2 Hhandler2 table appropriately stores only the county code, and uses the LU_COUNTY table to provide the county name for a particular county code. Storing both name and code lead to a number of inconsistent data entries, where the county name did not agree with the county code. Additionally, since neither county code or county name was a required field the data often was not validated for correctness. In an effort to convert the data as correctly as possibly, the following tests were used. First, obvious misspellings of the county name were corrected. The list of obvious misspellings were developed by examination of the data. The list of misspellings that were corrected can be found in the table BR_COUNTY_CONVERSON. Next, the corrected county name was checked against the lookup tables. If the county name matched it was used. Next, the county code was checked. If the county code matched it was used. If neither the county name or county code matched an entry in the LU_COUNTY table then the value for county code in the V2 Hhandler2 Table was assigned to 'null'.

4. The BR data had two sources for SIC codes, the IC form and the GM form. Data from these two forms was converted into the HNAICS table, giving priority to the IC form data. SIC codes were translated to the NAICS codes (refer to page 4 above for more information regarding the SIC to NAICS conversion. Please note that BR SIC code '9999' was not converted because there is no corresponding NAICS code.

5. The data in the System_Type field from the V1 data structure was converted to the Management_Method field in the V2 structure. Because System_Type was not always a required field, there are entries that cannot be converted. An effort was made to bring over as much data as possible. The V2 table BR_MGMT_CONVERSION documents the conversion. Of special interest is the conversion of system type M137 (other disposal) to H139(other disposal). This was done because none of the existing Management Methods corresponded to the M137 code.

6. The data in the Form_code field from the V1 data structure was converted to the Form_code field in the V2 structure. Because Form_code was not always a required field, there are entries that cannot be converted. An effort was made to bring over as much data as possible. The table BR_FORM_CONVERSION documents the conversion.

7. The data in the Source_code field from the V1 data structure was converted to the Source_code field in the V2 structure. Because Source_code was not always a required field, there are entries that cannot be converted. An effort was made to bring over as much data as possible. All Origin Codes with a value of '4' in the V1 data structure were converted to Source Code 'G61' in the V2 structure. The table BR_SOURCE_CONVERSION documents the conversion.

8. The conversion of waste codes, for both GM and WR forms, involved a number of steps. In brief, duplicate waste codes (i.e., instances where the same waste code appeared more than once on a single form) were eliminated. Next, if the same code appeared as both an EPA waste code and a State waste code on the same form (i.e., D002 was listed as both an EPA waste code and a State waste code on the same form) only the EPA waste code was converted. Finally, State waste codes that matched an HQ entry in the LU_WASTE_CODE table were converted from State waste codes to EPA waste codes (i.e., if a site had listed D008 as a State waste code it was converted to an EPA waste code since D008 was already defined as an HQ waste code).